IN THE CLAIMS

1. (currently amended) A cell signal switching apparatus for switching and transferring a cell signal among first and second nodes and an external [[a]] routing device, the nodes having each an interface for the cell signal, the routing device having an interface for the cell signal and determining an outgoing route for the cell signal according to destination data contained in the cell signal, the cell signal being made from a packet signal that contains the destination data, the cell signal switching apparatus comprising:

a switch for making a connection path among the nodes and having a predetermined connection path fixedly or semi-fixedly connected to the routing device;

a memory for storing cached caching the outgoing route data transmitted from the routing device through the predetermined connection path; and

a shortcut controller for forming a shortcut to transmit the cell signal directly from the first node to the second node without routing by the routing device when outgoing route data contained in an input cell signal from the first node is equal to outgoing route data cached in the memory, and otherwise autonomously caching outgoing route data for the input cell into the memory after the input cell signal from the first node has been transmitted to the routing device through the predetermined connection path, and returned therefrom through the predetermined connection path after the routing device has determined the outgoing route data.

2. (original) The apparatus of claim 1, wherein the first and second nodes and packet transfer apparatus form an ATM apparatus.

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3. (original) The apparatus of claim 2, wherein the cell signal is an AAL5 ATM signal.

4. (original) The apparatus of claim 2, wherein the output route data stored in the memory includes a destination address and an outgoing port number.

5. (previously presented) A cell signal switching apparatus for switching and transferring a cell signal among first and second nodes and a routing device, the nodes having each an interface for the cell signal, the routing device having an interface for the cell signal and determining an outgoing route for the cell signal according to destination data contained in the cell signal, the cell signal being made from a packet signal that contains the destination data, the cell signal switching apparatus comprising:

a switch for making a connection path among the nodes and having a predetermined connection path fixedly or semi-fixedly connected to the routing device;

˙ a memory for caching source data for a from an input cell signal transmitted from the second node as outgoing route data; and

a shortcut controller for forming a shortcut to transmit a cell signal input at the first node directly from the first node to the second node, without routing the cell signal via the predetermined connection path to and from the routing device, when outgoing route data contained in the cell signal input at the first node is equal to outgoing route data cached in the memory, and for caching into the memory source data contained in the input cell signal from the second node as outgoing route data.

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6. (original) The apparatus of claim 5, wherein the first and second nodes and packet transfer apparatus form an ATM apparatus.

7. (original) The apparatus of claim 6, wherein the cell signal is an AAL5 ATM signal.

8. (original) The apparatus of claim 6, wherein the output route data stored in the memory includes a destination address and an outgoing port number.

9. (currently amended) A cell signal switching apparatus for switching and transferring a frame signal among first and second nodes and an external [[a]] routing device, the nodes each having an interface for the frame signal, the routing device having an interface for the frame signal and determining an outgoing route for the frame signal according to destination data contained in the frame signal, the frame signal being made from a packet signal that contains the destination data, the cell signal switching apparatus comprising:

a switch for making a connection path among the nodes and having a predetermined connection path fixedly or semi-fixedly connected to the routing device;

a memory for storing cached eaching outgoing route data transmitted from the routing device through the predetermined connection path; and

a shortcut controller for forming a shortcut to transmit the frame signal directly from the first node to the second node without routing by the routing device when outgoing route data contained in an input frame signal from the first node is equal to outgoing route data cached into the memory, and otherwise autonomously caching outgoing route data for the input frame into the memory after the input frame from the first node has been transmitted to the routing device

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through the predetermined connection path, and returned therefrom through the predetermined connection path after the routing device has determined the outgoing route data.

10. (original) The apparatus of claim 9, wherein the first and second nodes and packet transfer apparatus form a frame relay apparatus.

11. (original) The apparatus of claim 10, wherein the output route data stored in the memory includes a destination address and an outgoing port number.

12. (previously presented) A cell signal switching apparatus for switching and transferring a frame signal among first and second nodes and a routing device, the nodes each having an interface for the frame signal, the routing device having an interface for the frame signal and determining an outgoing route for the frame signal according to destination data contained in the frame signal, the frame signal being made from a packet signal that contains the destination data, the cell signal switching apparatus comprising:

a switch for making a connection path among the nodes and having a predetermined connection path fixedly or semi-fixedly connected to the routing device;

a memory for caching source data ~~for~~ from an input frame signal received from the second node as outgoing route data; and

a shortcut controller for forming a shortcut to transmit a frame signal input at the first node directly from the first node to the second node, without routing the cell signal via the predetermined connection path to and from the routing device, when outgoing route data contained in an input frame signal from the first node is equal to outgoing route data cached in

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the memory, and caching into the memory source data contained in the input frame signal from the second node as outgoing route data.

13. (original) The apparatus of claim 12, wherein the first and second nodes and packet transfer apparatus form a frame relay apparatus.

14. (original) The apparatus of claim 13, wherein the output route data stored in the memory includes a source address and an incoming port number.

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